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Workpiece clamping technology from AMF supports highly efficient production of precision components for plastic manufacturing

The good quality of plastic products depends on how pure the plastics melt is and how exact the volume of granulate is. Accordingly, the granulate and filter systems as well as the screen changers have an overriding importance. They must be precisely made, run without interruption as much as possible and reliably filter out foreign matter and dirt particles. As a manufacturer with great competence and production depth, MAAG in Grossostheim, Germany has relied in its production on modular workpiece clamping technology from AMF for more than ten



years. Zero-point clamping systems, among others, help keep machine running times and productivity high.

"With our young team, we have made production much more efficient through numerous investments in the last five years. The modular workpiece clamping technology from AMF with the zero-point clamping systems at the centre contributes considerably to drastically reducing setup times across all processes," reports operations manager Ali C. Bal of Maag Germany GmbH in Grossostheim. The German factory of the Swiss MAAG Group makes high-precision components and capable machines that are essential for granulate and polymer production. The purity of the melt in the production process is just as important a requirement for the high quality of the final product as the uniform grain size of the granulate. Here, the granulate and filter system in general and the screen changers in particular play an overriding role. That the high-precision production of these components can keep pace with the growth of this MAAG area is due to investments. The comprehensive AMF workpiece clamping technology in strong and flat zero-point clamping modules makes an important contribution to low setup times.

"When the investment offensive started, we didn't have to start from scratch, since at MAAG they have been familiar with our

clamping technology for over ten years," reports Peter Unseld, the AMF sales engineer serving MAAG. MAAG screen changers are known and proven due to the double-piston construction, which in all sizes and designs doesn't require additional seals. As a result, these CSC screen changers work very robustly, reliably, and without leaks and maintenance. Of course, this requires highly precise machining of the stainless steel materials. For example, the gap between the cylindrical deep-hole drill holes and the pistons are only a few hundredths of a mm.

The screen changer housings are milled, drilled, ground, turned and honed on a total of ten 3-, 4- and 5-axis machining centres as well as several turn-milling centres. Clamping solutions from AMF are installed everywhere to ensure that the changeover between processes and machines takes place quickly and reliably without large set-up times. The trick here is modularity. Clamping plates with breadboard for pinning, hydraulic KH10- and KH20 zero-point clamping modules, block-clamping systems, collets and many components from the modular construction kit of clamping and fixture systems from AMF provide the great flexibility that operations manager Bal desires. Added to this are several clamping pillars equipped with 30 KH20 modules that likewise can be setup on base plates equipped with zero-point

clamping modules. As a result, clamping can take place horizontally.

"Despite all flexibility, what's important for us is that build-up doesn't get too high and that the workpieces, some of which are quite large, can be processed without danger of collision using the machines that have a collision circle between 600 and 1,500 mm," Ali C. Bal notes.

Manuel Nau, sales manager at AMF, can reassure him: "That is exactly the advantage of our installation modules, base and mounting plates. Although they can apply great force, they don't build up very high. That permits many possible combinations and ultimately the great flexibility and speed that cutters desire. That's like plug-and-play."

The hydraulic screw-in modules KH10 and KH20 can pull in workpieces with up to 20 kN of pull-in force and hold them in place with up to 55 kN of holding force. And so they are also suitable for direct clamping of workpieces. If a clamping plate or workpiece is pulled in, the pressure line can be decoupled as spring force mechanically locks it.

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